region in a direction parallel to the substrate to obtain a crystal growth region and another region has the silicon film having the amorphous, and

wherein a concentration of the metal element included in the crystal growth region is higher than that included in the another region.

15. A method for fabricating a semiconductor device, comprising the steps of:

forming a silicon film having an amorphous on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film, to introduce the metal element into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region has the silicon film having the amorphous, and

wherein a concentration of the metal element included in the crystal growth region is 1×10^{15} to 5×10^{19} atoms/cm^3.

16. The method of claim 14 wherein the metal element includes one of Ni, Fe, Co, Pd and Pt.

17. The method of claim 15 wherein the metal element includes one of Ni, Fe, Co, Pd and Pt.

18. A method for fabricating a semiconductor device, comprising the steps of:

forming a silicon film having an amorphous on a substrate having

a glass strain point of 593°C or less;

preparing a metal element which promotes crystallization before or after formation of the silicon film, to introduce the metal element into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate and another region has the silicon film having the amorphous.

19. The method of claim 18 wherein the substrate includes Corning 7059.

20. A method for fabricating a semiconductor device for an active matrix type liquid crystal display having a peripheral driving circuit portion and a picture element portion, comprising the steps of:

forming a silicon film having an amorphous on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film, to introduce the metal element into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a crystal growth direction parallel to the substrate to obtain a crystal growth region and another region has the silicon film having the amorphous, and

wherein the crystal growth region has at least one of thin film transistors provided as the peripheral driving circuit portion and the another region has at least another one of the thin film transistors provided as the

picture circuit portion.

21. A method for fabricating a semiconductor device for an active matrix type liquid crystal display having a peripheral driving circuit portion and a picture element portion, comprising the steps of:

forming a silicon film having an amorphous on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film, to introduce the metal element into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a crystal growth direction parallel to the substrate to obtain a crystal growth region and another region has the silicon film having the amorphous,

wherein the crystal grown region has at least one of thin film transistors provided as the peripheral driving circuit portion and the another region has at least another one of the thin film transistors provided as the picture circuit portion, and

wherein the crystal growth direction coincides with a carrier moving direction.

22. A method for fabricating a semiconductor device, comprising the steps of:

forming a silicon film having an amorphous on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film, to introduce the metal element into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region has the silicon film having the amorphous, and

wherein the crystal growth region and the another region each includes hydrogen.

23. A method for fabricating a semiconductor device, comprising the steps of:

forming a silicon film having a first crystallinity on a substrate;

preparing a metal element which promotes crystallization before or after formation of the silicon film, to introduce the metal element into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region having a second crystallinity higher than the first crystallinity and another region has the silicon film having the first crystallinity.

24. A method for fabricating a semiconductor device, comprising the steps of:

forming a silicon film having an amorphous on a substrate;

preparing nickel before or after formation of the silicon film, to introduce the nickel into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region has the silicon film having the amorphous, and

wherein the crystal growth region includes nickel.

25. A method for fabricating a semiconductor device, comprising the steps of:

forming a silicon film having an amorphous on a substrate;

preparing nickel before or after formation of the silicon film, to introduce the nickel into an introducing region of the silicon film; and

crystallizing the silicon film,

wherein the silicon film is crystal-grown from the introducing region in a direction parallel to the substrate to obtain a crystal growth region and another region has the silicon film having the amorphous, and

wherein the crystal growth region and the another region each includes the nickel and a concentration of the nickel included in the crystal growth region is higher than that included in the another region.

REMARKS

New claims 14-25 have been added in this division application to complete the scope of applicants' protection.

Examination on the merits is requested.

Respectfully submitted,

Gerald J. Ferguson, Jr.
Reg. No. 23,016

Sixbey, Friedman, Leedom & Ferguson, P.C.
2010 Corporate Ridge, Suite 600
McLean, Virginia 22102
(703) 790-9110